

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference 2540-0901		Date of mailing (day/month/year) 01 AUG 2008
FOR FURTHER ACTION See paragraph 2 below		
International application No. PCT/US05/46352	International filing date (day/month/year) 19 December 2005 (19.12.2005)	Priority date (day/month/year)
International Patent Classification (IPC) or both national classification and IPC IPC: G09G 5/00(2006.01) USPC: 345/204;348/646,649,650		
Applicant AVOCENT HUNTSVILLE CORPORATION		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion 19 June 2008 (19.06.2008)	Authorized officer ABBAS I. ABDULSELAM Telephone No. 571-272-7685
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International application No.

PCT/US05/46352

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ on paper

☐ in electronic form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in electronic form.

☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US05/46352

Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-32</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-32</u>	NO
Industrial applicability (IA)	Claims <u>1-32</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Please See Continuation Sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US05/46352

Supplemental Box
In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

Claims 1-32 Lacks an inventive step under PCT Article 33(3) as being obvious over Yang et al.

Regarding claims 1-2 and 22-30, Yang et al. (USPN 6833875) teaches as shown in Fig. 1,, a video decoder 100 including an ADC 116, a video demodulator 140, which outputs into color difference components (U and V, or I and Q), and provides the components to an output resampler 150 (col. 15, lines 18-21), Yang teaches as shown in Fig. 7A, the resampler 150, which behaves as a skew compensation circuit. Yang also teaches as shown in Fig. 1, color difference components (U and V, or I and Q), that are received and processed by an output resampler 150, which behaves as a skew compensation circuit such that the resampler 150 is designed to align a decoded picture to account for the phase error between the start of the video line and the burst phase. Yang also teaches as shown in Fig. 7C, the time difference T.sub.DIFF can be added to an output sampling clock by a summer to generate an output resampling signal, and discloses that the resampler 150 can be used as a scalar to provide output samples at a different horizontal sample rate or a different vertical sample rate, or both (col. 15, lines 7-25). Yang further teaches as shown in Fig. 7A (150, 720), a control circuit 722, which receives an output sampling clock (e.g., from a clock source 720) and the time difference T.sub.DIFF from control circuit 422, and discloses as shown in Fig. 1, color difference components (U and V, or I and Q) are received and processed by an output resampler 150. Yang further teaches that the output resampler 150 is configured with the timing circuit (124), which includes a phase lock loop (PLL) that receives the reference clock signal and a mode control signal and is configurable to operate in one of a number of operating modes indicated by the mode control signal.

Yang teaches does not specifically teach skew compensation circuitry coupled to the inputs to de-skew the video color components for both intrapixel skew and interpixel skew.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Yang's resampler 150, (which aligns taking into account for the phase error between the start of the video line and the burst phase, and which can be used as a scalar) for the purpose of avoiding misalignment among pixels with different color components and timing as taught by Yang.

Regarding claims 3-4, 7, 15-16, 19-21 and 32, While Yang teaches the resampler 150, which behaves as a skew compensation circuit, and discloses that after color demodulation and post processing, the luminance and color difference components are provided to the output and eventually displayed (col. 14, lines 4-6). Yang also teaches the use of a single ADC 116 as shown in Fig. 1 and delay element 522, as shown in Fig. 5B.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Yang does not teach the skew compensation circuitry includes a second compensation circuit to compensate for interpixel skew associated with the video color components such that the first compensation circuit is coupled to the second compensation circuit. Yang also does not teach the use of plurality of A/d converters and a plurality of delay elements.

However, it would have been obvious to one having ordinary skill in the art to make Yang's single ADC (116), single delay element 522 and a single resampler 150 plural since it has been known and obvious to be within the general skill of worker in the art to duplicate parts for a multiplied effect.

Regarding claim 5, Yang teaches as shown in Fig. 1 (112, 116), output from CLAMP/AGC circuit 112 going to input on ADC (116).

Regarding claim 6, Yang teaches as shown in Fig. 1 (116, 150), ADC (116), output resampler (150), and it would have been obvious to incorporate the ADC (116) into output resampler (150).

Regarding claims 8-9 and 31, Yang teaches a subcarrier PLL 420 shown in Fig. 4A, which is detailed in Fig. 8, which includes an accumulator 826.

Regarding claims 10-11, Yang teaches as shown in Fig. 7A (150, 720), a control circuit 722 receives an output sampling clock (e.g., from a clock source 720) and the time difference T.sub.DIFF from control circuit 422, and as shown in Fig. 1, discloses color difference components (U and V, or I and Q) are received and processed by an output resampler 150.

Regarding claims 12-14, Yang teaches as shown in Fig. 1, and Fig. 4A, color difference components (U and V, or I and Q) are received and processed by an output resampler 150 such that the output resampler 150 is configured with the timing circuit (124), which includes a phase lock loop (PLL) that receives the reference clock signal and a mode control signal and is configurable to operate in one of a number of operating modes indicated by the mode control signal).

Regarding claim 17, Yang teaches as shown in Fig. 6, a color demodulator 612, which is inside a video demodulator (140) of Fig. 1 that demodulates the color component.

Regarding claims 18, Yang teaches as shown in Fig. 5B, delay element 522, which provides $(m \cdot \text{multidot} \cdot n + m/2)$ samples of delay.